

A*udit*



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YEAR 2000 ISSUES WITHIN THE U.S. PACIFIC COMMAND'S
AREA OF RESPONSIBILITY

OPERATIONAL EVALUATION PLANNING AT
U.S. PACIFIC COMMAND HEADQUARTERS

Report No. 99-245

September 2, 1999

Office of the Inspector General
Department of Defense

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Acronyms

JTF	Joint Task Force
MTW	Major Theater War
OPEVAL	Operational Evaluation
USPACOM	U.S. Pacific Command
Y2K	Year 2000



INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
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September 2, 1999

MEMORANDUM FOR COMMANDER IN CHIEF, U.S. PACIFIC COMMAND

SUBJECT: Audit Report on Year 2000 Issues Within the U.S. Pacific Command's Area of Responsibility-Operational Evaluation Planning at U.S. Pacific Command Headquarters (Report No. 99-245)

We are providing this report for your information and use. This report is the eighth in a series resulting from our audit of "Year 2000 Issues Within the U.S. Pacific Command's Area of Responsibility." Because this report contains no findings or recommendations, no written comments were required, and none were received. Therefore, we are publishing this report in final form.

We appreciate the courtesies extended to the audit staff. Questions on the audit should be directed to Mr. Robert M. Murrell at (703) 604-9210 (DSN 664-9210) (rmurrell@dodig.osd.mil) or Mr. Patrick J. Nix at (703) 604-9290 (DSN 664-9290) (pnix@dodig.osd.mil). See Appendix D for the report distribution. The audit team members are listed on the inside back cover.

A handwritten signature in black ink, reading "Robert J. Lieberman", is positioned above the typed name.

Robert J. Lieberman
Assistant Inspector General
for Auditing

Office of the Inspector General, DoD

Report No. 99-245

(Project No. 8CC-0049.07)

September 2, 1999

Year 2000 Issues Within the U.S. Pacific Command's Area of Responsibility

Operational Evaluation Planning at U.S. Pacific Command Headquarters

Executive Summary

Introduction. This is one in a series of reports being issued by the Inspector General, DoD, in accordance with an informal partnership with the Chief Information Officer, DoD, to monitor DoD efforts to address the year 2000 computing challenge. For a list of audit projects addressing the issue, see the year 2000 web pages on the IGnet at <http://www.ignet.gov>.

Objectives. The overall audit objective was to evaluate whether the U.S. Pacific Command adequately planned for and managed year 2000 risks to avoid disruptions to its mission. Specifically, we evaluated the U.S. Pacific Command's operational evaluation planning efforts.

Results. The approach U.S. Pacific Command developed to evaluate its ability to execute joint task force and major theater war deployment operations within its area of responsibility in a year 2000 environment is fundamentally sound. The approach makes effective use of DoD year 2000 resources by relying on Service integration tests for testing portions of the thin lines of mission-critical systems and interfaces. When the results of U.S. Pacific Command operational evaluations are combined with the assessments made during Service integration tests, the U.S. Pacific Command should have the information needed to fully assess whether it can execute joint task force and major theater war deployment operations in a year 2000 environment. See the Discussion section for details.

Management Comments. We provided a draft of this report on July 2, 1999. Because this report contains no findings or recommendations, written comments were not required, and none were received. Therefore, we are publishing this report in final form.

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Background

This report is the eighth in a series resulting from our audit of "Year 2000 Issues Within the U.S. Pacific Command's Area of Responsibility." This report discusses year 2000 (Y2K) operational evaluation (OPEVAL) planning efforts by the U.S. Pacific Command (USPACOM). Other reports in the series that have been issued as final reports are identified in Appendix B.

DoD Y2K Management Strategy. In his role as the DoD Chief Information Officer, the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) is coordinating the overall DoD Y2K conversion effort. The Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) issued various iterations of a Y2K management plan to provide direction and make the DoD Components responsible for implementing the five-phase Y2K management process. The "DoD Year 2000 Management Plan, Version 2.0," December 1998, is the most current iteration.

The Joint Chiefs of Staff. The Chairman of the Joint Chiefs of Staff is the principal military adviser to the President, the Secretary of Defense, and the National Security Council. The Secretaries of the Military Departments assign all forces under their jurisdiction to the unified commands to perform missions assigned to those commands. The Joint Staff assists the Chairman of the Joint Chiefs of Staff with unified strategic direction of the combatant forces; unified operation of the combatant commands; and integration into an efficient team of air, land, and sea forces.

U.S. Pacific Command. USPACOM is the largest of the nine unified commands of the Department of Defense. It was established as a unified command on January 1, 1947, as an outgrowth of the command structure used during World War II. The USPACOM area of responsibility includes 50 percent of the earth's surface and two-thirds of the world's population. It encompasses more than 100 million square miles, stretching from the west coast of North and South America to the east coast of Africa and from the Arctic in the north to the Antarctic in the south. It also includes Alaska, Hawaii, and eight U.S. territories. The overall mission of USPACOM is to promote peace, deter aggression, respond to crises, and, if necessary, fight and win to advance security and stability throughout the Asian-Pacific region.

USPACOM, located at Camp H.M. Smith, Hawaii, is supported by Component commands from each Service: U.S. Army Pacific, U.S. Pacific Fleet, U.S. Pacific Air Forces, and U.S. Marine Forces Pacific. In addition, USPACOM exercises combatant command over four sub-unified commands within the region. The sub-unified commands are U.S. Forces Japan, U.S. Forces Korea, Alaskan Command, and Special Operations Command Pacific.

Objectives

The overall audit objective was to evaluate whether USPACOM adequately planned for and managed Y2K risks to avoid disruptions to its mission. In this phase of the audit, we evaluated OPEVAL planning efforts by USPACOM. See Appendix A for a discussion of the audit scope and methodology and Appendix B for a summary of prior coverage. In addition, see Appendix C for a discussion of the impact of the simultaneous execution of contingency plans.

U.S. Pacific Command's Year 2000 Operational Evaluation Planning Efforts

The Joint Staff tasked USPACOM to evaluate its ability to execute joint task force (JTF) and major theater war (MTW) deployment operations in a Y2K environment. The approach USPACOM developed to evaluate those missions is fundamentally sound. It tests the USPACOM ability to perform the tasks critical to JTF and MTW deployments in a Y2K environment. The approach also makes effective use of DoD Y2K resources by relying on the Services to evaluate portions of the thin lines* of systems and interfaces during their Service-level integration tests. Further, when the results of the assessments made during the Service integration tests are combined with those from the USPACOM OPEVALs, USPACOM should have the information needed to fully assess whether it can execute JTF and MTW deployment operations in a Y2K environment.

Y2K Operational Evaluations

Public Law 105-261, "Strom Thurmond National Defense Authorization Act for Fiscal Year 1999," October 17, 1998, directed the Secretary of Defense to ensure that at least 25 military exercises, to be conducted in the first 9 months of 1999, include a simulated Y2K phase; at least 2 of the 25 exercises be conducted by the commander of each unified or specified combatant command; and all mission-critical systems expected to be used if the Armed Forces were involved in an MTW be tested in at least 2 exercises. The objective of those requirements is to operationally evaluate the extent to which information technology and national security systems will successfully operate during the year 2000. The law allows information technology or national security systems to be excluded from the Y2K simulation phase of exercises if the systems are incapable of performing reliably in a Y2K environment. However, in those cases, the excluded systems must be replaced in accordance with the measures outlined in the system's Y2K contingency plan.

The Joint Staff developed a multifaceted assessment program that combines testing conducted at Office of the Secretary of Defense, Joint Staff, unified command, Service, and agency levels to implement the requirements of Public Law 105-261. The Joint Staff program assigns the unified commands the responsibility for conducting Y2K mission-centric evaluations of the various thin lines critical to the performance of operational missions. Those mission-centric evaluations would be combined with operational assessments of the contingency plans in place to support the missions in the event of system

* The minimum number of automated information platforms or systems required to perform each critical or essential task and mission.

failure. The combination of those evaluations and assessments is designed to provide a readiness check on the unified command's ability to support joint and combined operations in a Y2K environment.

In a message dated February 27, 1999, the Joint Staff directed the commanders in chief to identify and evaluate the thin lines of systems architectures (from the unified command headquarters to the "shooter") and the national system interfaces necessary for the successful accomplishment of each critical task. In addition, the Joint Staff stated that collectively the systems and interfaces on the commanders in chief thin lines define the set of systems and interfaces required for an MTW. Those requirements ensure that the appropriate systems and interfaces will be tested twice in an operational environment, at least once during a commander in chief OPEVAL. Further, the Joint Staff made the commanders in chief responsible for reporting the results of the headquarters-to-shooter evaluation, to include any segments evaluated as part of a Service integration or functional end-to-end test.

Operational Evaluation Planning

The Joint Staff tasked USPACOM to evaluate its ability to execute JTF and MTW deployment operations in a Y2K environment. The approach USPACOM developed to evaluate those missions is fundamentally sound. USPACOM established a task force and held planning conferences to plan its OPEVALs. The objective of the OPEVALs was to verify that USPACOM could successfully execute the missions, tasks, and subtasks critical to JTF and MTW deployment operations in a Y2K environment. To comply with Public Law 105-261 and the Joint Staff's guidance, USPACOM evaluated its ability to perform the missions, tasks, and subtasks critical to those operations in separate OPEVALs. USPACOM conducted its OPEVAL of JTF deployment operations in two phases. The first phase of the JTF OPEVAL and the MTW OPEVAL occurred in April 1999, and the second phase of the JTF OPEVAL occurred in June 1999.

Task Force. To accelerate and focus its Y2K efforts on operational readiness, USPACOM established a task force to work full time on Y2K issues. The task force is jointly led by the Operations Directorate (J3) and the Command, Control, Communications and Computer Directorate (J6) and is composed of the contingency assessment, the OPEVAL, and the reports and compliance monitoring branches. The OPEVAL branch is responsible for planning and executing the USPACOM OPEVALs. As of February 1999, the OPEVAL branch was staffed by four USPACOM personnel; six technicians from the Joint Interoperability Test Command and the Office of the Director, Operational Test and Evaluation, Office of the Secretary of Defense; and part-time subject-matter experts from across USPACOM and its subordinate organizations' functional staffs.

Planning Conferences. The USPACOM task force held nine planning conferences (three for each phase of the JTF OPEVAL and three for the MTW OPEVAL) to facilitate the planning of its OPEVALs. During those conferences

and through other formal and informal communications, the OPEVAL branch coordinated extensively with the subordinate organizations. As a result, USPACOM developed its evaluation approaches, identified the tasks critical to JTF and MTW deployment operations, identified the thin lines for those tasks, confirmed that contingency plans were developed, and addressed other issues that affected the performance of the OPEVALs.

Evaluation Approach

USPACOM determined that to adequately test its ability to conduct JTF and MTW deployment operations, it needed to evaluate its ability to maintain positive command and control of a deployed contingency JTF and the flow of reinforcements to an MTW. USPACOM decided to test its ability to communicate with a deployed contingency JTF and reinforcements as they were in transit to the Korean theater from within the command and the continental United States in support of the Commander in Chief, Republic of Korea/U.S. Combined Forces Command.

Identification of Tasks and Thin Lines. During its planning conferences, USPACOM, with the assistance of its Components, identified 12 tasks critical to maintaining positive command and control of deployed contingency JTFs and the flow of reinforcements to the Korean theater. USPACOM developed operational and systems architectures to identify the thin lines for those tasks. USPACOM then reviewed the architectures and eliminated redundant thin lines. Those efforts resulted in USPACOM identifying 16 unique thin lines of systems and interfaces required by USPACOM to maintain positive command and control of assigned forces.

Testing Techniques. USPACOM developed a tiered approach for evaluating the ability of those 16 thin lines to support the accomplishment of the tasks and subtasks critical to JTF and MTW deployment operations in a Y2K environment. USPACOM planned to test the portions of thin lines above the Components' headquarters during its OPEVALs and stated it was relying on the Service integration tests to evaluate the portions below the Components' headquarters. In a message dated February 12, 1999, USPACOM directed the Components to diagram the thin lines critical to the deployment tasks, provide a schedule of when the thin lines would be evaluated, and notify USPACOM of their plans for providing the USPACOM Y2K task force the results of their assessments. USPACOM stated it would integrate the Components' assessments with those resulting from the JTF and MTW OPEVALs and report to the Joint Staff whether it can execute JTF and MTW deployment operations in a Y2K environment.

Conclusion

We commend the USPACOM leadership for developing a fundamentally sound approach for evaluating its ability to execute JTF and MTW deployment operations within its area of responsibility in a Y2K environment. USPACOM established a task force and held planning conferences to effectively plan its OPEVALS. USPACOM also made effective use of DoD Y2K resources by relying on the Services to evaluate portions of the critical thin lines of systems and interfaces during their Service-level integration tests. When USPACOM combines assessments made during its OPEVALs with those made during the Service integration tests, USPACOM should be able to conclude whether JTF and MTW deployment operations can be executed in a Y2K environment.

Appendix A. Audit Process

This is one in a series of reports being issued by the Inspector General, DoD, in accordance with an informal partnership with the Chief Information Officer, DoD, to monitor DoD efforts to address the Y2K computing challenge. For a listing of audit projects addressing the issue, see the Y2K web pages on the IGnet at <http://www.ignet.gov>.

Scope and Methodology

We reviewed and evaluated the USPACOM OPEVAL planning efforts. Specifically, we assessed actions taken by USPACOM to develop its approach to evaluating its ability to perform the tasks and subtasks critical to JTF and MTW deployments in a Y2K environment. We met with the Y2K focal points for USPACOM; U.S. Army Pacific; U.S. Pacific Fleet; U.S. Pacific Air Forces; U.S. Marine Forces Pacific; Special Operations Command Pacific; the Joint Intelligence Center Pacific; and the Defense Information Systems Agency, Pacific, to identify the actions taken by those organizations to identify the tasks critical to JTF and MTW deployment operations, to identify the thin lines of systems and interfaces for those tasks, and to develop an approach for operationally evaluating those thin lines in a Y2K environment. We compared the actions taken with those described in the "Year 2000 Operational Evaluation Guide, Version 3.0," April 1, 1999, issued by the Joint Staff. Finally, we obtained OPEVAL related documentation, including the USPACOM OPEVAL plans, a joint listing of mission-essential tasks critical to JTF and MTW deployments, operational and systems architectures, and Service test plans, dated from August 1998 to March 1999, to assess the soundness of the USPACOM OPEVAL approach.

DoD-Wide Corporate-Level Goals. In response to the Government Performance and Results Act, DoD established 6 DoD-wide corporate-level performance objectives and 14 goals for meeting the objectives. This report pertains to achievement of the following objective and goal.

Objective: Prepare now for an uncertain future.

Goal: Pursue a focused modernization effort that maintains U.S. qualitative superiority in key war fighting capabilities. **(DoD-3)**

DoD Functional Area Reform Goals. Most major DoD functional areas have also established performance improvement reform objectives and goals. This report pertains to achievement of the following objectives and goals in the Information Technology Management Functional Area.

- **Objective:** Become a mission partner.

Goal: Serve mission information users as customers. **(ITM-1.2)**

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- **Objective:** Provide services that satisfy customer information needs.
Goal: Modernize and integrate DoD information infrastructure.
(ITM-2.2)
 - **Objective:** Provide services that satisfy customer information needs.
Goal: Upgrade technology base. (ITM-2.3)

High-Risk Area. In its identification of risk areas, the General Accounting Office has specifically designated risk in resolution of the Y2K problem as high. This report provides coverage of that problem and of the overall Information Management and Technology high-risk area.

Audit Type, Dates, and Standards. We performed this program audit from February through May 1999 in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD. We did not use computer-processed data for this audit.

Contacts During the Audit. We visited or contacted individuals and organizations within DoD. Further details are available upon request.

Management Control Program. We did not review the management control program related to the overall audit objective because DoD recognized the Y2K issue as a material management control weakness area in the FY 1998 Annual Statement of Assurance.

Appendix B. Summary of Prior Coverage

The General Accounting Office and the Inspector General, DoD, have conducted multiple reviews related to Y2K issues. General Accounting Office reports can be accessed over the Internet at <http://www.gao.gov/>. Inspector General, DoD, reports can be accessed over the Internet at <http://www.dodig.osd.mil/>. Final reports related to our audit of "Year 2000 Issues Within the U.S. Pacific Command's Area of Responsibility" are listed below.

Inspector General, DoD

Inspector General, DoD, Report No. 99-163, "Host Nation Support to U.S. Forces Korea," May 17, 1999.

Inspector General, DoD, Report No. 99-126, "Strategic Communications Organizations," April 6, 1999.

Inspector General, DoD, Report No. 99-125, "U.S. Forces Korea," April 7, 1999.

Inspector General, DoD, Report No. 99-086, "III Marine Expeditionary Force," February 22, 1999.

Inspector General, DoD, Report No. 99-085, "Hawaii Information Transfer System," February 22, 1999.

Appendix C. Impact of the Simultaneous Execution of Contingency Plans

Despite the best efforts of DoD managers to meet the technical challenges associated with bringing all systems into Y2K compliance, there may be some systems that fail, and that may cause other systems to also fail. Because of infrastructure disruption caused by those failures, other systems normally capable of correctly processing data may become unable to perform. As a result, the users of affected systems may simultaneously execute the alternative procedures or workarounds outlined in their contingency or continuity of operations plans. Based on our observations, that will include a number of users employing the same workaround and will cause the users of those systems to compete for the same resources to implement the workarounds. The risk that simultaneous execution of workarounds may cause the failure of multiple systems or missions, should there be insufficient resources to satisfy all users' workaround requirements, needs to be evaluated. USPACOM, in conjunction with its subordinate organizations, should review contingency or continuity of operations plans and initiate actions, if necessary, to ensure sufficient resources are in place to provide for the accomplishment of its most critical missions while implementing workaround measures.

Appendix D. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition and Technology
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Commander in Chief, U.S. Southern Command
Commander in Chief, U.S. Central Command
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 Inspector General, Defense Information Systems Agency
 Chief Information Officer, Defense Information Systems Agency
 United Kingdom Liaison Officer, Defense Information Systems Agency
Director, Defense Intelligence Agency
 Inspector General, Defense Intelligence Agency
Director, Defense Logistics Agency
Director, National Imagery and Mapping Agency
 Inspector General, National Imagery and Mapping Agency
Director, National Security Agency
 Inspector General, National Security Agency

Non-Defense Federal Organizations and Individuals

Office of Management and Budget
 Office of Information and Regulatory Affairs

Non-Defense Federal Organizations and Individuals (cont'd)

General Accounting Office
National Security and International Affairs Division
Technical Information Center
Accounting and Information Management Division
Director, Defense Information and Financial Management Systems

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House Subcommittee on National Security, Veterans Affairs, and International
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House Subcommittee on Technology, Committee on Science

Audit Team Members

The Readiness and Logistics Support Directorate, Office of the Assistant Inspector General for Auditing, DoD, prepared this report. Personnel of the Office of the Assistant Inspector General for Auditing, DoD, who contributed to the report are listed below.

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